

#HandsOnMmIT

Creating low-cost VR for your Library

@antonygroves

Today's workshop

Virtual Reality

Spherical Photography

360° photography at Sussex

The cost

The hands-on bit!

What is VR?

“Virtual Reality (VR) is the use of computer technology to create a simulated environment”

Dr. Brian Jackson, 2015

Expectation is growing

2014 Facebook buys Oculus

2016 FB supports 360° photos

2018 FB releasing 'Oculus Go'

“I am more committed than ever
to the future of virtual reality”

Mark Zuckerberg, 2017

Infrastructure is coming

5G expected in 2020
24 million users by 2021
100 times faster than 4G

www.wired.co.uk/article/5g-rollout-uk-global

Creating VR with 360° spherical photography

Camera (or app) creates
a 'photo sphere' through
image stitching, calibration
and blending.

This photo sphere can then
be viewed through web
pages, devices or headsets.

INVISIBLE

Making the invisible, visible - Part of Digital Discovery Week

**Follow the links
below to see a
360 lab gallery**



bit.ly/invisible360

INVISIBLE

WHAT CAN YOU SEE?

In the **NANOCHARACTERISATION LABORATORY**, we use a range of characterisation techniques to investigate the structure and properties of our materials from the nanoscale up to the macroscale. We use atomic force microscopy to map the structure of our materials with nanometre precision, optical microscopy and spectroscopy to measure their light absorption or emission, and mechanical and electrical characterisation to test the strength and conductivity that the nanomaterials give to the macroscopic structures

In the **RAMAN SPECTROSCOPY SUITE**, we characterise our nanomaterials and nanostructures using lasers to excite vibrations in the molecules, allowing us to 'see' the otherwise-invisible structure of our materials.

In the **NANOMATERIALS LABORATORY**, we make macroscopic materials into nanostructures ten thousand times smaller than a human hair. We use scalable liquid processing techniques to produce wonder materials like graphene and then assemble the graphene into highly conductive coatings and composites materials for tomorrow's

“Exhibitions throughout the week in spaces around the Library. See how digital technologies can be used to make the invisible, visible - from 3D printed body organs through to VR tours of inaccessible spaces.”

www.sussex.ac.uk/ddw

Taking 360° photos at The Keep with TEL



Making photos available

Using free services: Momento360

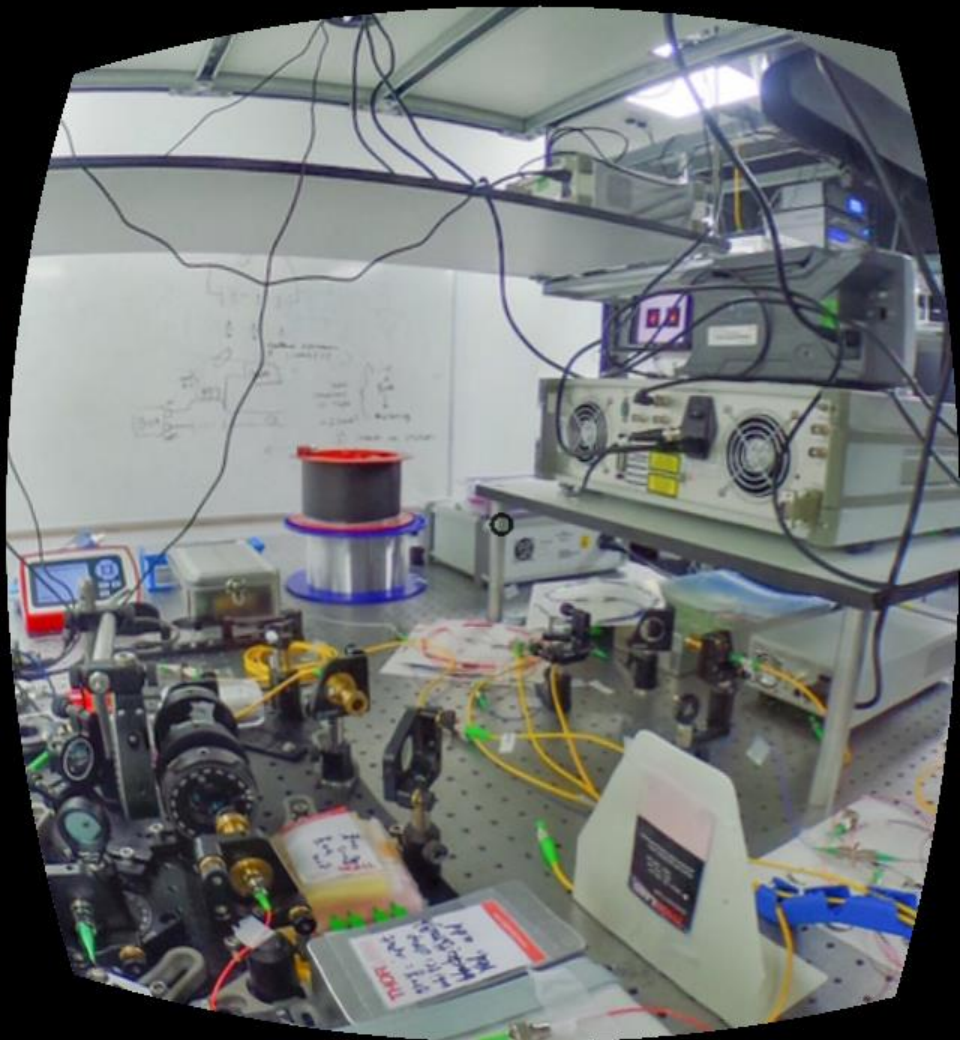
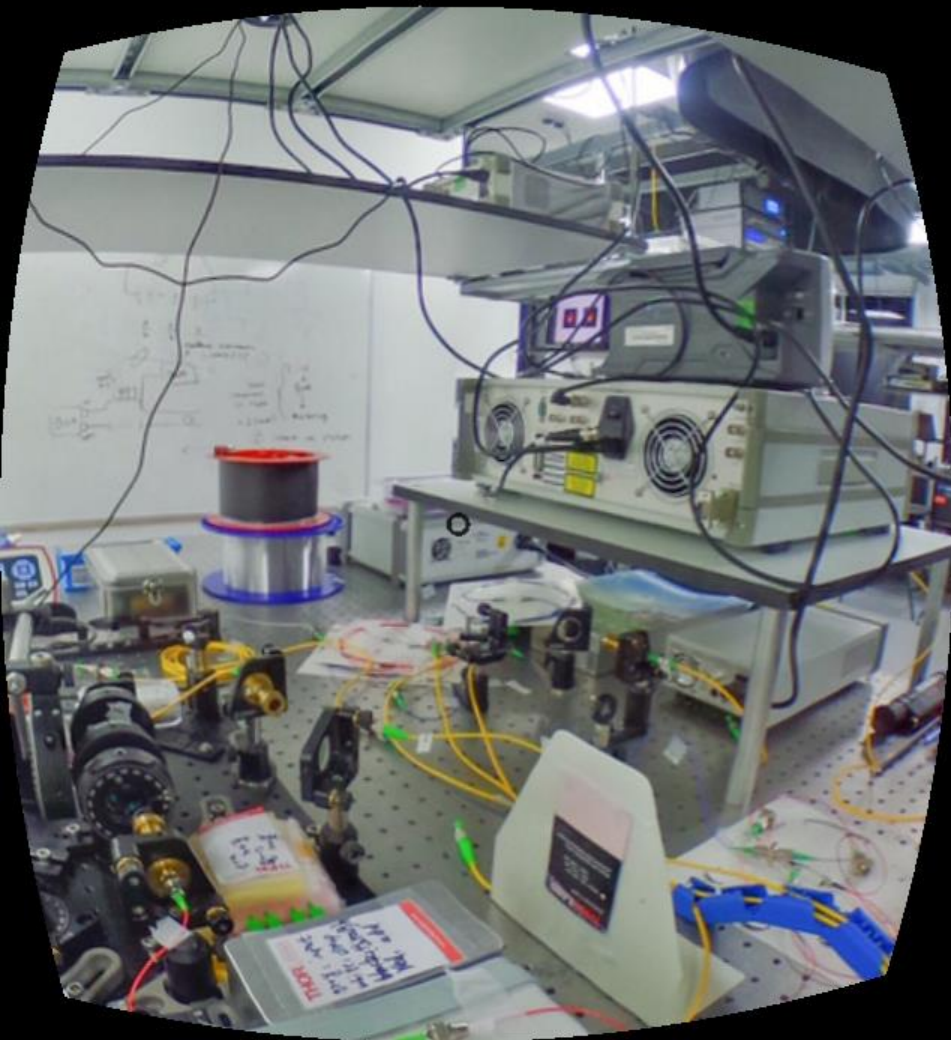
Embedding players: 360Player

Uploading to FB or Google Maps

Uploading to web using

Google VR View script:

<https://developers.google.com/vr/concepts/vrview>

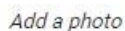


www.bit.ly/invisible360



County Government Office

SHARE



50

keep

Search

2 reviews

ment Office

Directions

NEARBY

SEND TO YOUR PHONE

SHARE

ards way, Brighton BN1 9BP

ep.info

482349

at 0

Enriched presence on Google Maps
(courtesy of Dr. Ben Jackson)

Story Mere Way

Lewes Rd

427





Affordable VR?

Ricoh Theta V 360° camera



£399.99

<http://shop-uk.ricoh-imaging.eu/theta-360/ricoh-theta-v.html/>

Oculus Rift VR Headset



£399

www.oculus.com/rift/

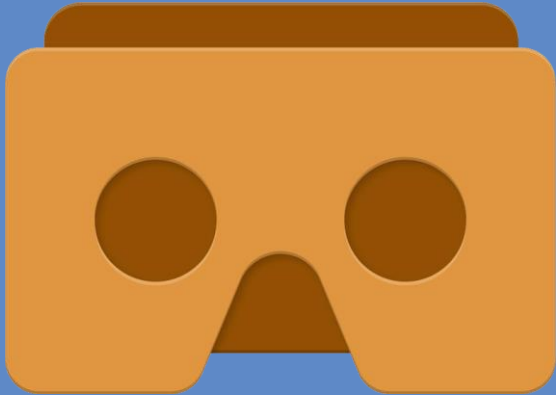
Google Cardboard



£11.55

https://vr.google.com/intl/en_uk/cardboard/get-cardboard/

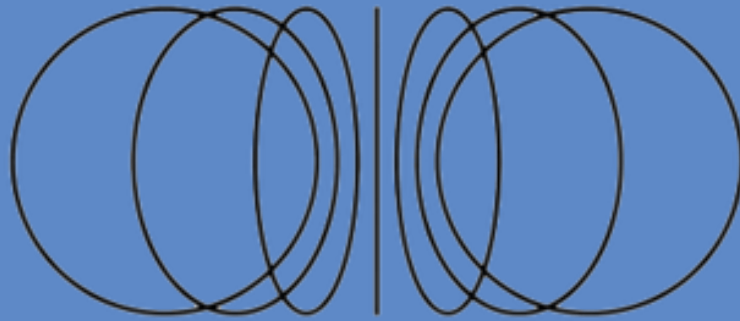
Google Cardboard & Street View apps



Free

<https://play.google.com> or <https://itunes.apple.com>

Facebook 360 Photos



facebook 360

Free

<https://facebook360.fb.com/360-photos/>

Your turn

1. Use Google Cardboard app to take a 360 photo
2. Sync your phone with the headset using QR code
3. Enjoy your VR experience!

Try using different apps or uploading to a service